Project Design Phase
Proposed Solution Template

Date	28 June 2025
Team ID	LTVIP2025TMID34492
Project Name	HematoVision : Advanced Blood Cell Classification Using Transfer Learning
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in the proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Manual blood cell classification is slow, subjective, and prone to human error. It requires expert interpretation, which can be inconsistent due to fatigue or limited experience, leading to delayed or inaccurate diagnoses.
2.	Idea / Solution description	Our project **"HematoVision"** uses transfer learning and deep learning models like ResNet or EfficientNet to automatically classify blood cells from microscope images. It provides a fast, accurate, and AI-powered diagnostic tool for hematological analysis.
3.	Novelty / Uniqueness	HematoVision uses transfer learning to reduce the need for large datasets and training time. It enables real-time, high-accuracy classification and can be integrated into diagnostic software or mobile apps for lab technicians and hospitals.
4.	Social Impact / Customer Satisfaction	Enhances diagnostic speed and accuracy, reducing human error. Supports early disease detection like leukemia or anemia, saving lives. Increases confidence among healthcare providers and improves patient outcomes.
5.	Business Model (Revenue Model)	Can be licensed to pathology labs, hospitals, and diagnostic centers as a subscription-based desktop or cloud tool. Pay-per-use models or integrations with existing lab systems can also be explored.
6.	Scalability of the Solution	The system can be extended to classify other medical images like urine sediments or tissue biopsies. It's deployable across different hospitals, labs, and can integrate with electronic health record (EHR) systems for wider reach.